

10/040,535

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	307291	(filter).ti.	US-PGPUB; USPAT; EPO; JPO; DERWENT ; IBM_TDB	OR	ON	2005/06/23 09:06
L2	5406	(filter).ti. and (notch\$3 or band near3 reject\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT ; IBM_TDB	OR	ON	2005/06/23 09:20
L3	1	10/040,535	US-PGPUB; USPAT; EPO; JPO; DERWENT ; IBM_TDB	OR	ON	2005/06/23 09:34
L6	163	2 and active with passive	US-PGPUB; USPAT; EPO; JPO; DERWENT ; IBM_TDB	OR	ON	2005/06/23 09:22
L7	255	2 and active and passive	US-PGPUB; USPAT; EPO; JPO; DERWENT ; IBM_TDB	OR	ON	2005/06/23 09:51
L8	7	("3657480" "4031321" "4589135" "4771466" "5568560" "5937072" "6405227").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/06/23 09:30
L9	2	("5349254" "5701332").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/06/23 09:41
L10	4	("3836726" "3890461" "5309476" "5337332").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/06/23 09:42
L11	1	("3577179").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/06/23 09:43
L12	4	("2584386" "3473142").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/06/23 09:43
L13	4	("3919658" "3946328" "4015224" "4132966").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/06/23 09:44
L14	58	7 and 327/552-559.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT ; IBM_TDB	OR	ON	2005/06/23 09:51
L15	3	("5107491" "5662118" "5717772").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/06/23 09:52

L16	7	("3813669" "4438298" "4534024" "4608559" "4611320" "4644348" "4810949").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/06/23 09:59
-----	---	---	------------------------------	----	----	------------------

(60) Provisional application No. 60/254,841, filed on Dec. 12, 2000.

Publication Classification

(51) Int. Cl.⁷ H01P 1/213
(52) U.S. Cl. 333/134; 333/205

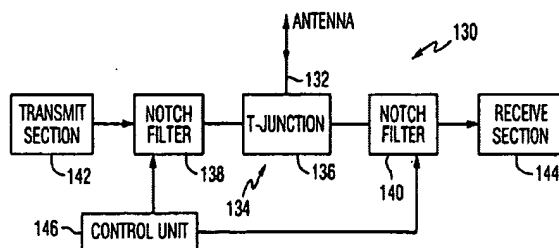
(57) ABSTRACT

(22) Filed: Feb. 17, 2004

Related U.S. Application Data

(62) Division of application No. 10,013,265, filed on Dec. 10, 2001.

This invention provides a notch filter including a main transmission line, a coupling mechanism, and at least one electrically tunable resonator coupled to the transmission line through the coupling mechanism. A uniaxial dielectric varactor or a microelectromechanical variable capacitor is provided in each of the resonators. Wireless telephone handsets that include the filter are also included.



KWIC

Title - TTL (1):
Electrically tunable

Summary of Invention
[0002] The present invention relates to a microwave notch (band) filter and a microwave notch filter.

Summary of Invention
[0011] Filters for use
required to provide bet
made to develop new t
configurations. One of
is to add cross couplin

EAST Browser - 12: (5405) (filter) u. | US 2004/0178866 | Tag: S | Doc: 142/2000 | "Full" 1/16 (Total images 16) | Front Page

DOCUMENT IDENTIFIER

TITLE: **Band**

— KWC —

Abstract Paragraph-A
A band rejection filter circuit having and/or connected in series via that is an odd multiple frequency of the plural circuit for roughly coupling which are not adjacent

TITLE-TUL (A):
Band rejection filter

Summary of invention
(1002) The present in that is provided with it.

Summary of invention
(1004) Conventionally resonant circuits are to impedance-matching N Artech House Publisher is provided with two or via a transmission line the one that has a long frequency of the two or filter is also provided with.

Summary of invention
s

(19) United States
(12) Patent Application Publication (10) Pub. No.: US 2004/0178866 A1
Uchida et al. (4) Pub. Date: Sep. 16, 2004

(54) BAND REJECTION FILTER WITH ATTENUATION POLES (30) Foreign Application Priority Data
Dec. 27, 2002 (JP) 2002-381817

(76) Inventors: Hiromitsu Uchida, Tokyo (JP); Moriyo Miyazaki, Tokyo (JP); Yoshitaka Inai, Tokyo (JP); Norio Umemura, Tokyo (JP); Junko Nakayama, Kanagawa (JP); Hiroaki Kamino, Kanagawa (JP)

Correspondence Address:
BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747 (US)

(21) Appl. No.: 10/783,983
(22) Filed: Feb. 26, 2004

(51) Int. Cl.⁷ H01P 1/203
(52) U.S. Cl. 333/204

(57) ABSTRACT
A band rejection filter with poles includes a plurality of series resonant circuits having end terminals connected in common and other end terminals connected in series via a plurality of transmission lines each having a length that is an odd multiple of about the one-quarter wavelength at the resonance frequency of the plurality of series resonant circuits, and a jump-coupling circuit for roughly coupling two of the plurality of series resonant circuits, which are not adjacent to each other, to each other.

1 3₁ 3₂ 3₃
2 2 2
S₁
4₁ 4₃₁ 4₃₂ 4₃₃ 4₄₁ 4₄₂ 4₄₃
S₂ 4₂

Details | Text | Image | Details | Patent | Image | HTML | Full

Start | Stop | Refresh | Print | Zoom | Search | Help | Home | Back | Forward | Reload | Stop | Pause | Play | Full Screen | Exit

EAST Browser - L6 (163) 2 and active... | US 2002/000875 | Tag: S | Doc: 22/163 | "Full" 1/5 (Total images 5) | Front Page

DOCUMENT IDENTIFIER

FILE: Separation of plural band pass filters

Abstract Paragraph - A1

The separation of a pair of adjacent band pass filters, by inverting the output signals from alternate filters and not inverting the remaining output signals. The result is a deeper notch in the frequency response of adjacent filters.

Title - TUL (1): Separation of plural band pass filters

Cross Reference to Related Documents (1): (1001) This application No. 09/482,193, filed Dec. 1, 2000, is assigned to the same assignee as this document. The entire content of this document is incorporated by reference.

Summary of Invention (1002) Frequently, a pair of adjacent band pass filters and the outputs are summingly described below, the outputs of each filter in a pair of adjacent band pass filters are summed.

Summary of Invention (1003) Comb filters are relatively low, (less than 70%) in the ratio of the band frequencies in a comb filter band reject or stop band filter. The "Q" of a comb filter is relatively low.

(19) United States
(12) Patent Application Publication (10) Pub. No.: US 2002/000875 A1
Allen et al. (43) Pub. Date: Jan. 3, 2002

(54) SEPARATION OF PLURAL BAND PASS FILTERS (22) Filed: Jan. 13, 2000
Publication Classification

(70) Inventors: Justin L. Allen, Mesa, AZ (US); Samuel L. Thompson, Gilbert, AZ (US)

(51) Int. Cl.⁷ H03B 1/00
(52) U.S. Cl. 327/557

Correspondence Address: Paul F. Wilde, 6407 E. Clinton Street, Scottsdale, AZ 85254 (US)

(*) Notice: This is a publication of a continued prosecution application (CPA) filed under 37 CFR 1.53(d).

(21) Appl. No.: 09/482,193

(57) ABSTRACT

The separation of a adjacent band pass filters is improved, without changing the filters, by inverting the output signals from alternate filters and not inverting the remaining output signals. All the output signals are then summed. The result is a deeper notch in the frequency response of adjacent filters.

10 11 12 13 14 15 17 21 22

Office

10000000-0000 10000000-0000 EAST (Default) Desktop (Access) Document-Misc EAST Browser 10:00 AM

EAST Browser - L5 (163) 2 and active | US 6404279 | Tag: S | Doc: 46/163 | "Full" 1/6 (Total images 6) | Front Page

US-PAT-NO: 6404279

DOCUMENT IDENTIFIER

TITLE: Band pass filter with improved group delay

Abstract Text - A17X (1)
An electrical signal is applied to a band pass filter and a second notch filter in any order. The center frequencies of the notch filters straddle the pass band of the band pass filter. The notch filters improve group delay and steepen the skirts of the response curve of the band pass filter.

TITLE - TI (1):
Band pass filter with improved group delay

Brief Summary Text - B1
(1) Application No. 08/492,815

Brief Summary Text - B2
Today, a band pass filter technology. For example, capacitors, and inductor filters add one or more of becoming too attenuate, minimize a particular resonance, and, therefore, the foregoing objects of the present invention are to provide a band pass filter in any order, straddle the pass band of the band pass filter.

(12) United States Patent
Thomasson

(10) Patent No.: US 6,404,279 B2
(45) Date of Patent: Jun. 11, 2002

(54) BAND PASS FILTER WITH IMPROVED GROUP DELAY

(75) Inventor: Samuel L. Thomasson, Gilbert, AZ (US)

(73) Assignee: Acoustic Technologies, Inc., Mesa, AZ (US)

(*) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(c), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 08/492,815
(22) Filed: Jan. 26, 2000
(51) Int. Cl.: H03K 5/00
(52) U.S. Cl.: 327/337; 327/552; 327/556
(58) Field of Search: 327/552, 553, 327/556, 557

References Cited
U.S. PATENT DOCUMENTS
5,107,691 A * 4/1992 Chew 370/65.1
5,662,118 A * 9/1997 Smith 128/733
5,717,772 A * 3/1998 Lee et al. 381/93

OTHER PUBLICATIONS
"Electronic Filter Design Handbook," A.B. Williams and F.J. Taylor, 3rd Ed., McGraw-Hill, Inc. (1995), pp. 5.43-5.46, 6.38-6.39, 7.21-7.27 & 7.30.
"Radio Engineering," Thomas, McGraw-Hill Book Company (1937), pp. 76-85.
* cited by examiner

Primary Examiner—Dish T. Le
(10) Attorney, Agent, or Firm—Paul F. Wille

(57) ABSTRACT
An electrical signal is applied to a band pass filter, a first notch filter, and a second notch filter in any order. The center frequencies of the notch filters straddle the pass band of the band pass filter. The notch filters improve group delay and steepen the skirts of the response curve of the band pass filter.

9 Claims, 2 Drawing Sheets

40

41

42

43

44

45

